

### **REMARKS**

Upon entry of the foregoing amendment, claims 2-4, 8-10, 12, 15, 17-20, and 24-31 are pending in the application, with claims 9, 15, 19, 27, and 31 being the independent claims. Claims 1, 5-7, 11, 14, 16, and 21-23 were previously canceled. Claim 13 is presently canceled without prejudice to or disclaimer of the subject matter therein. Claim 31 is presently added. Claims 9, 15, 19, and 24 are currently amended. The amendment of claims 15 and 19 is merely to correct informalities, and is not intended to change their scope. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

#### ***Allowed Claims***

Applicants acknowledge with gratitude the Examiner's allowance of claims 12, 15, 17-20, and 25-30.

#### ***Objections to the Claims***

In section 5 of the Office Action, the Examiner objected to claims 9, 13, 15, 19, and 24 for various informalities. Applicants have amended claims 9, 15, 19, and 24 to address the Examiner's concerns. Claim 13 has been canceled. Thus, Applicants respectfully request reconsideration and withdrawal of this objection and that claims 9, 15, 19, and 24 and their corresponding dependent claims be passed to allowance.

#### ***Rejections Under 35 U.S.C. § 112***

##### **Second paragraph**

In section 7 of the Office Action, claim 24 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, there is insufficient antecedent basis for "said third

image part” and “said second image part” in lines 2 and 4. Applicants have amended claim 24 to address the Examiner’s concerns. Applicants therefore respectfully request that this rejection be reconsidered and withdrawn and that claim 24 be passed to allowance.

### **First paragraph**

In section 9 of the Office Action, claims 2-4, 8-10, and 24 were rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement. In particular, the Examiner contends that the specification does not provide enablement for independent claim 9, from which claims 2-4, 8, 10, and 24 depend. Applicants have amended independent claim 9 to address the Examiner’s concerns. Applicants therefore respectfully request that this rejection be reconsidered and withdrawn and that amended independent claim 9 and claims 2-4, 8, 10, and 24, which depend from claim 9, be passed to allowance.

### ***Rejections Under 35 U.S.C. § 103***

In section 11 of the Office Action, claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,272,535 to Elabd (hereinafter “Elabd”) in view of U.S. Patent No. 5, 909,026 to Zhou *et al.* (hereinafter “Zhou”). Claim 13 has been canceled to expedite prosecution of the application, thereby rendering this rejection moot. Applicants therefore respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103.

### ***New Claim 31***

New independent claim 31 recites:

An image sensor comprising:

a plurality of image sensor pixels including at least first, second, and third pixels to provide respective sets of first, second, and third reset and signal voltages; and

a noise reduction circuit to receive first, second, and third amplified image signals formed of differences between the reset and

signal voltages of the respective first, second, and third sets, the noise reduction circuit including

a first fixed pattern noise reduction circuit having

a first capacitor element to store the first amplified image signal,

a second capacitor element to store the second amplified image signal, and

circuitry configured to combine the first and second amplified signals to provide a first combined signal at a first time; and

a second fixed pattern noise reduction circuit having

a third capacitor element to store the second amplified image signal,

a fourth capacitor element to store the third amplified image signal, and

circuitry configured to combine the second and third amplified signals to provide a second combined signal at a second time that is different from the first time.

Nothing in the combination of Elabd and Zhou teaches or suggests an image sensor comprising a noise reduction circuit including first and second noise reduction circuits, as set forth in new claim 31. Thus, Applicants assert that claim 31 is patentable over Elabd and Zhou, alone or in combination. For at least this reason, Applicants therefore respectfully request that claim 31 be passed to allowance.

### ***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

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Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Bryan Wade

Registration No.: 58,228

DICKSTEIN SHAPIRO LLP

1825 Eye Street, NW

Washington, DC 20006-5403

(202) 420-2200

Attorneys for Applicants